



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.             | CONFIRMATION NO.            |
|---|-------------|----------------------|---------------------------------|-----------------------------|
| 09/900,559  | 07/05/2001  | Robert S. Daley      | 010299                          | 5056                        |
| 23696 7590 10/09/2007<br>QUALCOMM INCORPORATED<br>5775 MOREHOUSE DR.<br>SAN DIEGO, CA 92121 |             |                      | EXAMINER<br>ELALLAM, AHMED      |                             |
|   |             |                      | ART UNIT<br>2616                | PAPER NUMBER                |
|   |             |                      | NOTIFICATION DATE<br>10/09/2007 | DELIVERY MODE<br>ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com  
kascanla@qualcomm.com  
nanm@qualcomm.com

57

|                              |                                      |                                     |  |
|------------------------------|--------------------------------------|-------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>09/900,559 | <b>Applicant(s)</b><br>DALEY ET AL. |  |
|                              | <b>Examiner</b><br>AHMED ELALLAM     | <b>Art Unit</b><br>2616             |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25, 27, 28, 69-74 and 76-87 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25, 27-28, 69-74, and 76-87 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

This office action is responsive to RCE filed on 08/28/2007.

Claims 1-25, 27-28, 69-74, and 76-87 are pending

### ***Claim Rejections - 35 USC § 102***

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-12, 17-25, 27, 73-74, 76-78, 80-82, 84, 86, and 87 are rejected under 35 U.S.C. 102(e) as being anticipated by Dalal, US 2002/0093931 A1.

As to independent claims 1, and 11:

Regarding claim 1, with reference to figure 1 and 3, Dalal discloses voice over Internet (VOIP) system comprising:

Plurality of base stations 101-103 in connection with Mobile station controller (MSC) 140, (see figure 3), a plurality of mobile stations 111-114 for communicating between each other or to devices over the Internet 240, (the Internet implicitly connected to communication device(s), which reads on the claimed communication device), (the combination of any base station with the MSC reads on the claimed the least one infrastructure component), Dalal's mobile stations uses an over-the-air protocol different from Internet Protocol IP ((e.g., CDMA) see paragraphs [0023]-[0024], (claimed at least one infrastructure component communicating with one or

Art Unit: 2616

more wireless devices using a wireless device over-the-air OTA protocol different from Internet protocol (IP)), (the MSC and or Base station is interpreted as the claimed the least one logic component facilitating communication between a target wireless device and a communication device, the target wireless device not supporting IP),

Dalal further discloses undertaking functionality by the SDU (selection and distribution unit) that receives voice, data and signaling traffic from BS 101-103 ( and thus from mobile stations operating in a CDMA protocol) and perform all radio dependent functions on the voice, data, and signaling frames including RLP conversion and the like for IP routing and switching to and from mobile stations and Internet or PSTN network respectively, see paragraph [0043], and figure 4. Dalal doesn't specify the information being voice, however it is inherent to Dalal to convert between voice data in IP protocol to the voice data in the wireless device OTA protocol and vise versa when the information is voice (either from the CDMA mobile station to the Internet or VOIP from the Internet to the CDMA station), because that is required for the bidirectional communication between CDMA subscribers and subscribers connected to the Internet. (Claimed transforming voice data in IP protocol to the wireless device protocol OTA; sending the voice data in wireless device OTA protocol to the target wireless device; transforming voice data in the wireless device OTA protocol from the target wireless device to IP protocol; and sending the voice data in IP protocol toward the communication device).

Regarding claim 11, with reference to figure1 and 3, Dalal discloses voice over Internet (VOIP) method comprising:

Art Unit: 2616

Plurality of base stations 101-103 in connection with Mobile station controller (MSC) 140, (see figure 3), a plurality of mobile stations 111-114 for communicating information between each other and/or to devices over the Internet 240 or PSTN, (the Internet implicitly connected to communication device(s) for bidirectional communications between the communication device and the mobile stations), Dalal's mobile stations uses an over-the-air protocol different from Internet Protocol IP ((e.g., CDMA) see paragraphs [0023]-[0024], Dalal doesn't specify the information being voice, however it is inherent to Dalal to convert between voice data in IP protocol to the voice data in the wireless device OTA protocol and vice versa when the information is voice (either from the CDMA mobile station to the Internet or VOIP from the Internet to the CDMA station), because that is required for the bidirectional communication between CDMA subscribers and subscribers connected to the Internet (claimed communicating voice data in IP to a wireless device not supporting IP, comprising: transforming the voice data in IP to an over-the-air (OTA) protocol, and transmitting the voice data in OTA protocol to the wireless device).

Regarding claim 12, Dalal discloses undertaking functionality by the SDU (selection and distribution unit) that provides IP routing (IP router 355, figure 3) for data or voice between a mobile station and Internet 240 (to a communication device not shown), see paragraph [0043]. (Claimed transforming voice data in OTA protocol from the wireless device to IP and sending the voice data in IP toward a communication device).

Art Unit: 2616

Regarding claims 2, and 76, as indicated above the mobile stations uses a code division multiple access (CDMA) protocol.

Regarding claim 74, with reference to figure 1 and 3, Dalal discloses voice over Internet (VOIP) system comprising:

Plurality of base stations 101-103 in connection with Mobile station controller (MSC) 140, (see figure 3), a plurality of mobile stations 111-114 for communicating between each other or to devices over the Internet 240 or PSTN 230, (the Internet implicitly connected to communication device(s), which reads on the claimed another communication device), (the combination of any base station with the MSC reads on the claimed the least one infrastructure component), Dalal's mobile stations uses an over-the-air protocol different from Internet Protocol IP ((e.g., CDMA) see paragraphs [0023]-[0024], (claimed at least the infrastructure component communicating with one or more wireless devices using a wireless device over-the-air OTA protocol different from Internet protocol (IP)), (the MSC and or Base station is interpreted as the claimed the least one logic component facilitating communication between a target wireless device and a communication device, the target wireless device (using CDMA protocol) not supporting IP),

Dalal further discloses undertaking functionality by the SDU (selection and distribution unit) (claimed logic component) that receives voice, data and signaling traffic from BS 101-103 (and thus from mobile stations operating in a CDMA protocol) and perform all radio dependent functions on the voice, data, and signaling frames including RLP conversion and the like for IP routing and switching to and from mobile

Art Unit: 2616

stations (mobile stations reads on wireless communication device not supporting IP protocol) and Internet or PSTN network respectively, see paragraph [0043], and figures 3 and 4 . Dalal doesn't specify converting between voice data in IP protocol to the voice data in the wireless device OTA protocol and vice versa, however it is inherent to Dalal to convert between voice data in IP protocol to the voice data in the wireless device OTA protocol and vice versa when the information is voice (either from the CDMA mobile station to the Internet or VOIP from the Internet to the CDMA station), because that is required for the bidirectional communication between CDMA subscribers and subscribers connected to the Internet. (Claimed transforming voice data in IP protocol to the wireless device OTA protocol, sending the voice data in wireless device OTA protocol to the target wireless device, transforming voice data in wireless device OTA protocol from the target wireless device to IP protocol, and sending the voice data in IP protocol toward the communication device).

Regarding claims 3, 4, 77 and 78, as indicated above the combination of the base station and MSC of Dalal for providing an interface between the CDMA protocol and IP protocol reads on the infrastructure component is a base station (BTS) (as in claims 3 and 77) and the infrastructure component is a base station controller (BSC) (as in claims 4 and 78).

Regarding claims 5, 17, and 80 as indicated above, Dalal's mobile stations use a CDMA protocol. (Claimed the wireless device protocol is an over-the-air (OTA) voice protocol).

Regarding claims 6 and 81, Dalal discloses IP routing between the base stations and Internet, see figure 3, (claimed the logic component converts OTA protocol packets to IP packets).

Regarding claims 7, 8 and 82, Dalal implicitly and by way of symmetry has other wireless unit (communication device) connected to the Internet in the same fashion as the mobile stations connected through base stations 101-103 (figure 3). (Claimed logic component converts IP packets to OTA protocol packets).

Regarding claims 9 and 84, the CDMA wireless protocol of Dalal uses spreading and dispreading as part of the CDMA wireless communications (claimed the wireless device protocol is a spread spectrum protocol).

Regarding claims 10, and 21, as indicated above Dalal using CDMA protocol and the IP routing reads on the claimed OTA protocol voice packet has a size less than the size of an IP packet, because the packet size of the voice over IP is relatively large compared to the packet size of voices using CDMA (see for example prior art admission, specification paragraph [0006]).

Regarding claims 18, 19 and 20, as indicated above, the combination of the base station and MSC of Dalal for providing an interface between the CDMA protocol and IP protocol. (Claimed converting OTA protocol packets to IP packets in claim 18 and converting IP packets to OTA protocol packets as in claim 19).

Regarding claim 73, Dalal discloses having voice and data packet communication separation at the MSC, see paragraph [0044]. (Claimed information represents digitized voice, or digital data).



Regarding claims 86 and 87, Dalal routes packet to and from the Internet using IP router 355 and without using vocoder 352 (IP packets do not require vocoding and devocoding). (Claimed the infrastructure component is part of a communications infrastructure undertaking no vocoding as in claim 86 and first wireless device communicates with a second wireless device in a call, and the method includes not undertaking tandem vocoding in the call as in claim 87).

**Claims 22-25, 27:**

Regarding claim 22, with reference to figure 1 and 3, Dalal discloses voice over Internet (VOIP) method/system comprising:

Plurality of base stations 101-103 in connection with Mobile station **controller** (MSC) 140, (see figure 3), a plurality of mobile stations 111-114 for communicating between each other or to devices over the Internet 240, Dalal's mobile stations uses an over-the-air protocol different from Internet Protocol IP ((e.g., CDMA) see paragraphs [0023]-[0024], Dalal further discloses an SDU (selection and distribution unit) that provides IP routing (IP router 355, figure 3) for data or voice between a mobile station and Internet 240, see paragraph [0043].

Dalal further discloses that "controller" means any device, system or part thereof that controls at least one operation, such a device may be implemented in hardware, firmware or software, or some combination of at least two of the same. See paragraph [0017] (it is implicit that the hardware of Dalal and software of Dalal have executable codes, because that is needed for the implementation of the method steps

Art Unit: 2616

by using the associated hardware and software as it is known in the art, in addition, as indicated above with reference to independent claims 1, 11 and 74 above, Dalal inherently provides for convert between voice data in IP protocol to the voice data in the wireless device OTA protocol and vice versa, because that is required for the bidirectional communication between CDMA subscribers and subscribers connected to the Internet. (Claimed computer program comprising a computer-readable medium including code for causing a computer to convert voice data in Internet protocol (IP) from a communication system infrastructure to voice data in over-the-air (OTA) protocol packets to render first converted packets, codes for causing the computer to convert voice data in OTA protocol packets from a wireless device not supporting IP to IP packets to render second converted packets, and code for causing the computer to provide communication between the wireless device and the infrastructure using the first and second converted packets).

Regarding claim 23, as indicated above uses hardware, and software for implementing the method steps, Dalal also discloses using CDMA protocol and the IP routing (claimed OTA protocol voice packet has a size less than the size of an IP packet, because the packet size of the voice over IP is relatively large compared to the packet size of voices using CDMA, see [0017] and prior art admission, specification paragraph [0006] as an example.

Regarding claim 24, as indicated above uses hardware, and software for implementing the method steps, Dalal also discloses using CDMA protocol and the IP routing reads on the claimed OTA protocol voice packet has a size less than the size of

an IP packet, because the packet size of the voice over IP is relatively large compared to the packet size of voices using CDMA (see for example prior art admission, specification paragraph [0006]).

Regarding claim 25, as indicated above the mobile stations uses a code division multiple access (CDMA).

Regarding claims 27, the base station and MSC of Dalal provides for an interface between the CDMA protocol and IP protocol using the controller (the controller being a computer as indicated above in claim 22), (claimed computer is a base station or a base station controller).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 13-16, 28, 69-72, 79, 83 and 85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dalal.

Regarding claims 13 and 28, Dalal discloses all the limitations of respective base claim 11 and 22 as indicates above, except it doesn't specify associating the wireless device with an IP address based at least in part on a location of the wireless device.

However, associating a wireless device with an IP address based on at least a location of the wireless device is well known in the art. It would have been obvious to a

Art Unit: 2616

person of skill in the art at the time the invention was made to associate the wireless devices of Dalal with IP addresses (for example the IP address of the associated base station) so that IP traffic from remote communication devices can be routed to the proper base station that is in communication with a specific wireless device. The advantage would be the ability to route IP traffic to closest base station in which the mobile unit is served.

Regarding claim 14, Dalal discloses having the base station and the MCS for providing communication for the mobile units. (Claimed method is undertaken by a communication system infrastructure component).

Regarding claims 15 and 16, as indicated above with regard to base claim 11, the combination of the base station and MSC of Dalal provides an interface between the CDMA protocol and IP protocol reads on the infrastructure component is a base station (BTS) (as in claim 15) the infrastructure component is an MSC, (as in claim 16).

Regarding claims 70 and 72, as indicated above, Dalal discloses the wireless device protocol being CDMA but doesn't specify the wireless protocol can be selected from a group of protocols consisting of: CDMA, WCDMA, TDMA, TD-SCDMA, UMTS.

However, these protocols are well-established standards protocols used in of wireless communications systems. It would have been obvious to a person of skill in the art at the time the invention was made to modify the method/system of Dalal to be used not only for CDMA over-the-air wireless devices but also to the existing wireless devices implementing any known standard such as WCDMA, TDMA, TD-SCDMA, UMTS so that these wireless devices can communicates over the Internet. It is also more profitable to

Art Unit: 2616

Dalal's system to be capable to provide a variety of services over the Internet for a larger number of wireless subscribers using different wireless protocols.

Regarding claims 69, 71 and 79, Dalal discloses all the limitations of respective base claim 1 and 11 and 74 as indicates above, except it doesn't disclose the base station being a gateway for satellite communication system.

However, Examiner take official notice that gateway for satellite communications is well known in the art. Since official action is taken, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made to have a base system component of Dalal being a gateway for satellite communication so that non-IP mobile unit can communicate with remote communication devices using satellite communication system. The advantage would be the ability to provide worldwide communications between the wireless units of Dalal and any other communication device that may be reached over the satellite communication system.

Regarding claim 83, Dalal implicitly and by way of symmetry has other wireless units (communication device) connected to the Internet in the same fashion as the mobile stations connected through base stations 101-103 (figure 3).

Regarding claim 85, as indicated above Dalal using CDMA protocol and the IP routing reads on the claimed OTA protocol voice packet has a size less than the size of an IP packet, because the packet size of the voice over IP is relatively large compared to the packet size of voices using CDMA (see for example prior art admission, specification paragraph [0006]).

***Response to Arguments***

3. Applicant's arguments with respect to claims 1, 11, 22, 74 and related dependent claims have been considered but are moot in view of the new ground(s) of rejection.

The new ground of rejection relies on the inherency of Dallal teaching of the conversion (or transforming) of voice data in IP protocol to the wireless device OTA protocol and vice versa. The rational for the inherency is based on the architecture of Dallal:

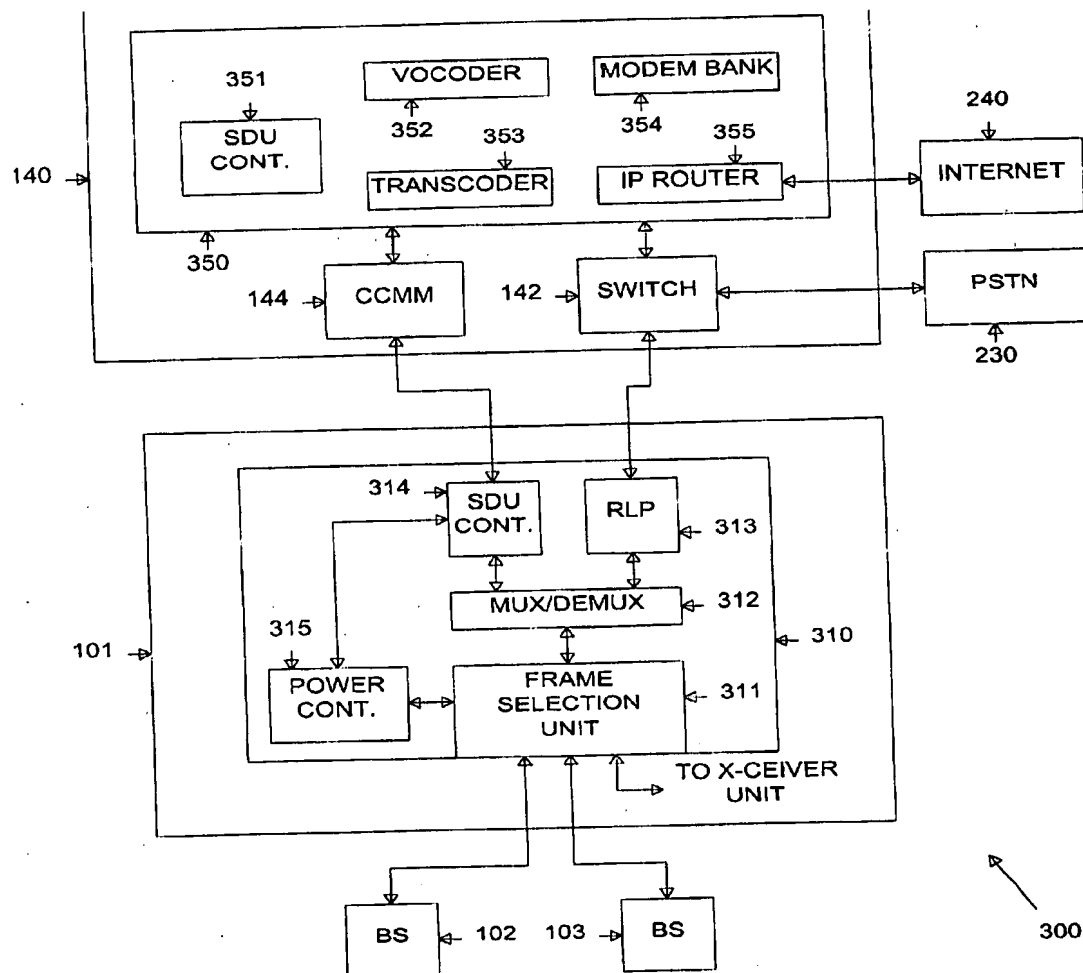


FIGURE 3

As shown in figure 3, the CDMA mobile stations connected to the base stations 102 and 103 are wireless stations using a *wireless device over-the-air (OTA) protocol* different from Internet protocol (IP), it is clear from the figure that users connected to the Internet 240 use the Internet protocol, and it is also clear that subscribers attached to the CDMA system making voice calls to user connected to the Internet, a conversion

Art Unit: 2616

from CDMA voice data to Voice-over-IP (VOIP) is required, similarly a conversion of VOIP from the Internet callers to CDMA is also required.

Although Dallal is silent about such conversion since it is not pertinent to his invention, Examiner asserts that such feature of CDMA to IP and IP to CDMA voice conversion is clearly anticipated by the structure of Dallal.

Examiner provides herewith the reference to Jiang, US 7,058,076, which is pertinent to Applicants' disclosure and not relied upon in this office action. Jiang with reference to figure 2, and 3, shows the inherent feature that is required in the communication between CDMA mobile stations and other devices connected to the Internet.

#### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: see Form PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AHMED ELALLAM whose telephone number is (571) 272-3097. The examiner can normally be reached on 7-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AHMED ELALLAM  
Examiner  
Art Unit 2616  
9/29/07

  
CHI PHAM  
SUPERVISORY PATENT EXAMINER

10/1/07